PROFESSIONAL AUDIO AND SOUND

Series **3000**

Integrated Amplifiers

Manual
OM 160

Operating Instructions and Service Manual

5 Channel - 2 Zone - Phone Interface

T3040MOH - 40 Watt RMS

T3060MOH - 60 Watt RMS

T3120MOH - 120 Watt RMS

IMPORTANT NOTE: *THIS OPERATING MANUAL IS PROVIDED AS AN INSTALLATION AND AS AN OPERATING AID. PASO SOUND PRODUCTS, INC. DOES NOT ASSUME ANY RESPONSIBILITY AS TO ITS ACCURACY AND SHALL NOT BE LIABLE IN TORT OR CONTRACT FOR ANY DIRECT CONSEQUENTIAL OR INCIDENTAL LOSS OR DAMAGE ARISING FROM THE INSTALLATION, USE OR INABILITY TO USE THIS PRODUCT.*

CAUTION ! TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK DO NOT EXPOSE THIS APPLIANCE TO WATER, RAIN OR MOISTURE

MOH
VOX

Series 3000

c UL ® LISTED 20 GA

Innovation through technology since 1931

REV. 2.0

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Specifications are subject to change without notice

DESCRIPTION AND APPLICATIONS

- ❑ 5 Channel Inputs - 2 Zone Outputs
- ❑ Wide Frequency Response
  Very Low Distortion
- ❑ 4 Balanced Microphone Inputs
- ❑ Multi-Level Mic Inputs Priority
- ❑ Phantom Power on 4 MIC Inputs
- ❑ 600 ohm Balanced
  Telephone Paging Input
- ❑ EQ Link and Mix Buss
- ❑ Independent Auxiliary 1 Input
- ❑ Mic 4/Aux 2 Balanced Input
- ❑ Separate CD Player Input
- ❑ Independent Input Controls
  Bass and Treble Controls
- ❑ VOX - Voice Activated Muting
- ❑ Direct Precedence/Muting
- ❑ 600 ohm and 8 ohm 1 Watt
  Music on Hold Amplifier
- ❑ MOH Amplifier Source Selector
- ❑ Zone 2, 1 Watt - 8 ohm Output
  with Separate Control
- ❑ AC Accessory Outlet
- ❑ 8 ohm, 25 Volt & 70 Volt
- ❑ Automatic Overload Protection
- ❑ High Reliability Operation
- ❑ Rack Mounting with Optional Kit

UNPACKING

Immediately upon receipt of the amplifier, inspect the unit and shipping container for indications of improper handling or in transit damage. The equipment was carefully inspected and tested before leaving the factory. Notify the Transportation Company immediately if any damage is found. ONLY THE CONSIGNEE CAN FILE A CLAIM WITH THE CARRIER FOR DAMAGE DURING SHIPMENT. Be sure to save the carton and packing material as evidence of damage for the shipper inspection. DO NOT SHIP the unit back to the factory unless authorized by the factory.

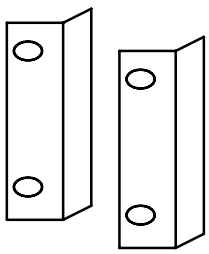
IN TRANSIT DAMAGES ARE NOT COVERED BY THE PASO WARRANTY.

SPECIFICATIONS

T3040 Power Output:	40 Watt RMS
T3060 Power Output:	60 Watt RMS
T3120 Power Output:	120 Watt RMS
Distortion:	Less than 0.5% THD
Frequency Response:	20 - 20,000 Hz ± 1 db
Inputs:	
Input 1	Bal. 250 ohm MIC 1/Phone-600 ohm
Input 2	250 ohm balanced MIC 2
Input 3	250 ohm balanced MIC 3
Input 4	Bal.250 ohm MIC4/AUX 2-10 K ohm
Input 5	47 K ohm AUX 1/CD
Phantom Power:	MIC 1-2-3-4 with Selector (16VDC)
Sensitivity:	
Input 1	*Mic*=1.5 Mv/*Tel*=100 Mv
Input 2	*Mic*=1.5 Mv
Input 3	*Mic*=1.5 Mv
Input 4	*Mic*=1.5 Mv/*Aux 2*=1 Volt
Input 5	*Aux 1*=100 Mv/*CD*=360 Mv
Hum & Noise:	*Mic* -70 db, *Aux/CD* -75 db
Telephone Input:	600 ohm balanced
Music on Hold Output:	600 ohm-1 Volt Transf. balanced
Zone 2 Output:	1 Watt-8 ohm
Output Impedance:	8 ohm, 25 Volt and 70 Volt line
Controls:	
Front Panel:	MIC1/Phone Volume, MIC2-3 Volume, MIC 4/AUX 2 Volume, AUX1/CD Volume, Bass, Treble
Rear Panel	MOH & ZONE 2 Level Control
Phantom Power:	On 4 MIC Inputs w/internal jumper
MOH Source:	AUX1 or AUX2 w/internal jumper
Tone Control Action:	+/-10 db at 100 Hz and 10 K hz
VOX:	Voice Activated Muting MIC/PHONE mutes AUX 1 or AUX 2 with internal jumper
Direct Muting:	With Contact Closure
Rack Mounting:	Optional Rack Kit
Power Requirement:	117 Volt, 50-60 Hz
Power Consumption:	T3040=120 VA, T3060=170 VA,T3120=350 VA,
AC Accessory Outlet:	300 W Max. Unswitched
Terminations:	Screw Terminals, RCA Jacks
Housing Finish:	Black
Dimensions:	17" W., 9½" D., 3½" H. (432X242X89 mm)
Net Weight:	T3040=13 Lbs (6 Kg), T3060=16 Lbs (7.2 Kg), T3120=19 Lbs (8.7 Kg)

ACCESSORIES

27/3501 - Standard 19" Rack Mounting Kit. Black finish. Complete with hardware



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IMPORTANT SAFETY INSTRUCTIONS

READ BEFORE OPERATING

BEFORE OPERATING THE AMPLIFIER, BE SURE YOU FULLY UNDERSTAND ALL INSTRUCTIONS AND FEATURES OF THE UNIT.

1) Read these instructions carefully.
2) Keep these instructions.
3) Heed all Warnings.
4) Follow all instructions.
5) DO NOT use this apparatus near water.
6) Clean ONLY with a damp cloth.
7) DO NOT block any of the ventilation openings. Install in accordance with the instructions provided.
8) DO NOT install near any heat sources such as radiators, stoves, or other apparatus (including amplifiers) that produce heat.
9) DO NOT mount amplifier into a container or a closed unventilated closet while operating.
10) DO NOT place any object or accessory equipment such as Tuners, Mixers, Cassette Decks, etc. on top of the amplifier. Obstructing or closing the cabinet ventilation openings may cause overheating.
11) DO NOT defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade and or the third prong is provided for your safety. When the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

READ BEFORE OPERATING

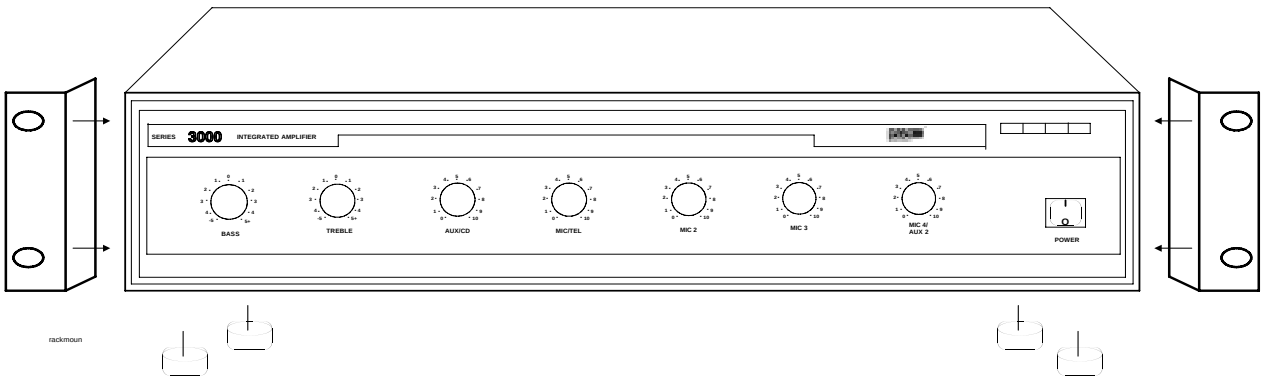
12) Use only the attachments and accessories specified in this manual.
13) If a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
14) Unplug this apparatus during lighting storms or when unused for long periods of time.
15) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
16) DO NOT replace fuses unless power cord is removed from the AC wall outlet.
17) DO NOT install accessories unless the power cord is removed from the AC wall outlet.

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK DO NOT EXPOSE THIS APPLIANCE TO WATER, RAIN OR MOISTURE

RACK MOUNTING

A) Procure the optional accessory Rack Mount Kit.
B) Turn amplifier up side down and remove the four rubber feet by unscrewing the four holding screws.
C) Remove three screws on each side of the amplifier holding the amplifier cover.
D) Install the rack kit brackets by using the self-tapping screws provided and the screws removed as per C.

Fig. 3 - Rack Kit Mounting



FRONT PANEL CONTROLS

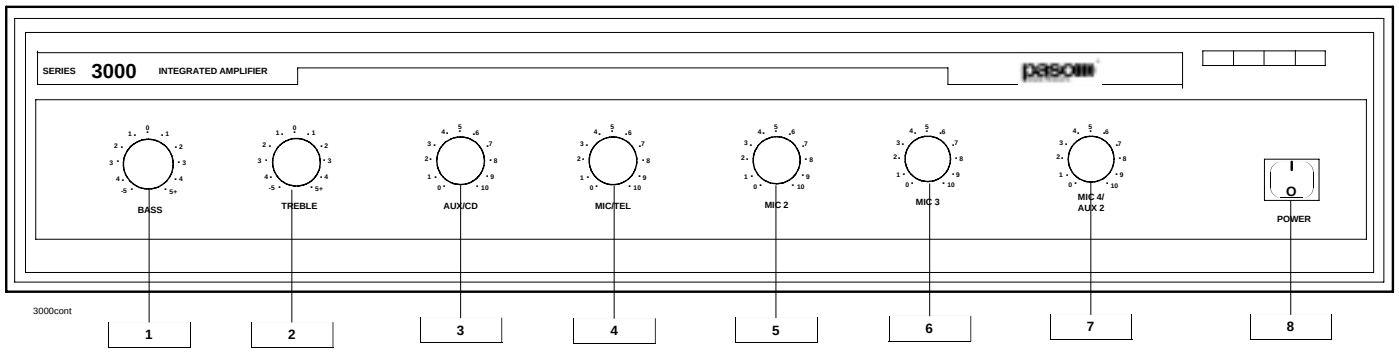
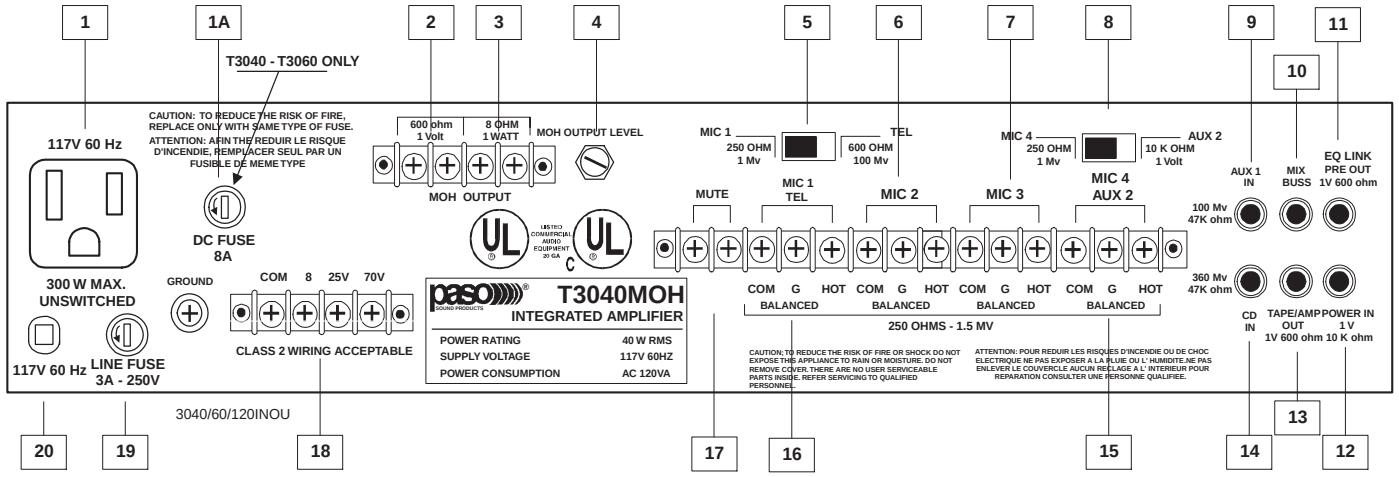


Fig. 4 - Front Panel Controls

1) **Bass Control**
2) **Treble Control**
3) **AUX/CD Control**
4) **MIC/TEL Input Volume Control**
5) **MIC 2 Volume Control**
6) **MIC 3 Volume Control**
7) **MIC 4 - AUX 2 Volume Control**
8) **On-Off Power Switch**

REAR PANEL INPUTS - OUTPUTS


1
1A
2
3
4
5
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7
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9
10
11
T3040 - T3060 ONLY
117V 60 Hz
CAUTION: TO REDUCE THE RISK OF FIRE, REPLACE ONLY WITH SAME TYPE OF FUSE.
ATTENTION: AFIN THE REDUIR LE RISQUE D'INCENDIE, REMPLACER SEUL PAR UN FUSIBLE DE MEME TYPE
DC FUSE 8A
300 W MAX. UNSWITCHED
GROUND
COM 8 25V 70V
CLASS 2 WIRING ACCEPTABLE
117V 60 Hz
LINE FUSE 3A - 250V
600 ohm 1 Volt
8 OHM 1 WATT
MOH OUTPUT LEVEL
MOH OUTPUT
T3040MOH
INTEGRATED AMPLIFIER
POWER RATING 40 W RMS
SUPPLY VOLTAGE 117V 60HZ
POWER CONSUMPTION AC 120VA
MIC 1 250 OHM 1 Mv
TEL 600 OHM 100 Mv
MIC 4 250 OHM 1 Mv
AUX 2 10 K OHM 1 Volt
MUTE
MIC 1 TEL
MIC 2
MIC 3
MIC 4 AUX 2
COM G HOT BALANCED
250 OHMS - 1.5 MV
AUX 1 IN
MIX BUSS
EQ LINK PRE OUT 1V 600 ohm
100 Mv 47K ohm
360 Mv 47K ohm
CD IN
TAPE/AMP OUT 1V 600 ohm
POWER IN 1 V 10 K ohm
CAUTION; TO REDUCE THE RISK OF FIRE OR SHOCK DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. DO NOT REMOVE COVER. THERE ARE NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED PERSONNEL.
ATTENTION: POUR REDUIR LES RISQUES D'INCENDIE OU DE CHOC ELECTRIQUE NE PAS EXPOSER A LA PLUIE OU L' HUMIDITE.NE PAS ENLEVER LE COUVERCLE AUCUN RECLAGE A L' INTERIEUR POUR REPARATION CONSULTER UNE PERSONNE QUALIFIEE.
3040/60/120INOU
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13
12

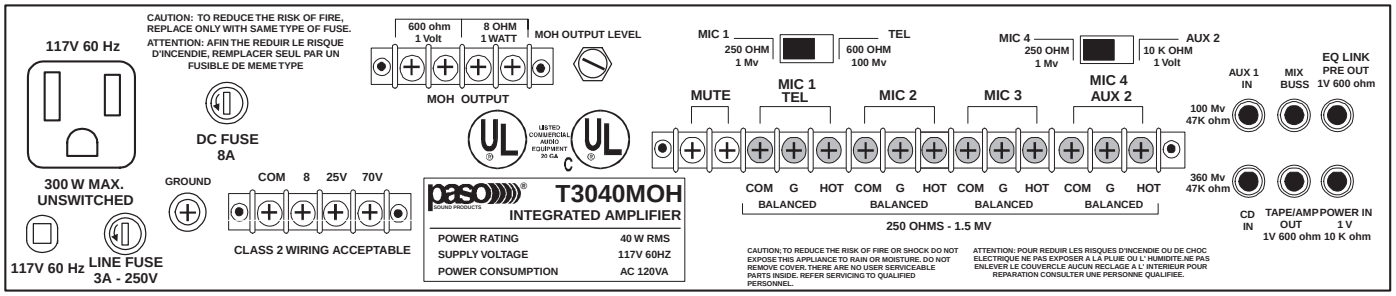
Fig. 4A - Rear Panel Inputs and Outputs

1) **AC Auxiliary Socket**
1A) **DC Fuse Models T3040MOH and T3060MOH only**
2) **600 ohm MOH Output**
3) **1 Watt 8 ohm Output (2nd zone or MOH)**
4) **MOH Output Level**
5) **MIC/TEL Input Switch Selector**
6) **Balanced MIC 2 Input**
7) **Balanced MIC 3 Input**
8) **MIC 4/AUX 2 Input Selector Switch**
9) **AUX 1 Input**
10) **MIX BUSS Input/Output**
11) **EQ LINK Preamplifier Out**
12) **EQ LINK Power Amplifier In**
13) **Tape/Booster Output**
14) **CD Input**
15) **Balanced MIC 4/AUX 2 Input**
16) **Balanced MIC 1/TEL Input**
17) **Direct Muting Terminals**
18) **Speaker Output**
19) **AC Line Fuse**
20) **AC Power Cord**

INSTALLATION AND WIRING

INPUT CONNECTIONS

Fig. 5 Amplifier Rear Panel View


117V 60 Hz
CAUTION: TO REDUCE THE RISK OF FIRE, REPLACE ONLY WITH SAME TYPE OF FUSE.
ATTENTION: AFIN THE REDUIR LE RISQUE D'INCENDIE, REMPLACER SEUL PAR UN FUSIBLE DE MEME TYPE
DC FUSE 8A
300 W MAX. UNSWITCHED
117V 60 Hz
LINE FUSE 3A - 250V
GROUND
COM 8 25V 70V
CLASS 2 WIRING ACCEPTABLE
600 ohm 1 Volt
8 OHM 1 WATT
MOH OUTPUT LEVEL
MOH OUTPUT
T3040MOH
INTEGRATED AMPLIFIER
POWER RATING 40 W RMS
SUPPLY VOLTAGE 117V 60HZ
POWER CONSUMPTION AC 120VA
MIC 1 250 OHM 1 Mv
TEL 600 OHM 100 Mv
MIC 4 250 OHM 1 Mv
AUX 2 10 K OHM 1 Volt
MUTE
MIC 1 TEL
MIC 2
MIC 3
MIC 4 AUX 2
COM G HOT COM G HOT COM G HOT COM G HOT
BALANCED BALANCED BALANCED BALANCED
250 OHMS - 1.5 MV
AUX 1 IN
MIX BUSS
EQ LINK PRE OUT 1V 600 ohm
100 Mv 47K ohm
360 Mv 47K ohm
CD IN
TAPE/AMP OUT 1V 600 ohm 10 K ohm
POWER IN 1 V
CAUTION; TO REDUCE THE RISK OF FIRE OR SHOCK DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. DO NOT REMOVE COVER. THERE ARE NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED PERSONNEL.
ATTENTION: POUR REDUIR LES RISQUES D'INCENDIE OU DE CHOC ELECTRIQUE NE PAS EXPOSER A LA PLUIE OU L' HUMIDITE.NE PAS ENLEVER LE COUVERCLE AUCUN RECLAGE A L' INTERIEUR POUR REPARATION CONSULTER UNE PERSONNE QUALIFIEE.

MICROPHONE INPUTS

MICROPHONE TYPE

The Microphone Inputs accept Low Impedance (250-600 ohm) Microphones. The Microphone may be a balanced output type (three wire) or an unbalanced output type (two wire).

PASO MICROPHONES

All PASO low impedance Microphones have a balanced output for best performance. Connect the RED lead to terminal HOT, the WHITE lead to terminal COM and the SHIELD to terminal G (see Fig. 5A).

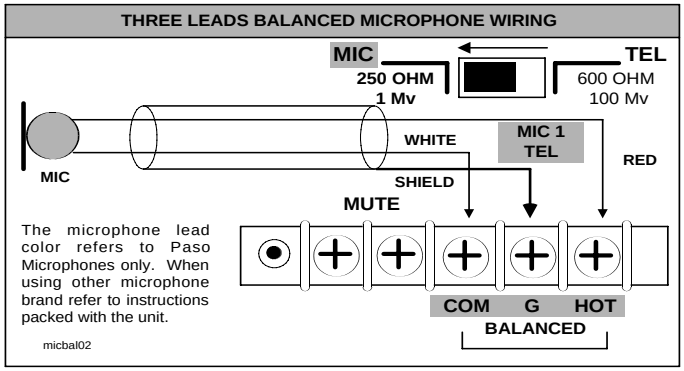


Fig. 5A - Rear Panel MIC 1/TEL Input Terminals

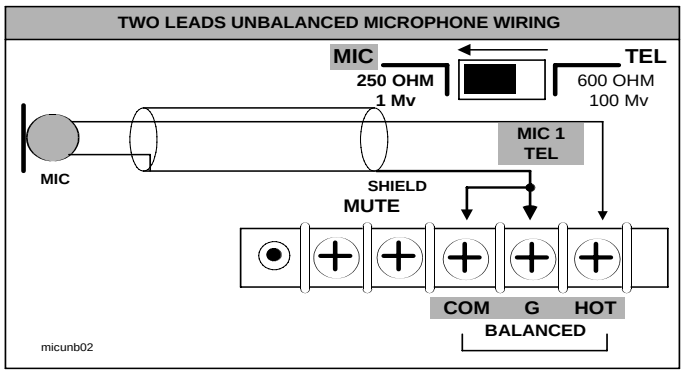


Fig. 5B - Rear Panel MIC 1/TEL Input Terminals

CAUTION

TO PREVENT POSSIBLE DAMAGE TO SPEAKERS OR THE AMPLIFIER ALL INPUT CONNECTIONS MUST BE MADE WITH THE AMPLIFIER OFF (POWER OFF).

WIRING

MIC 1 - TELEPHONE INPUT SWITCH SELECTOR

Locate the MIC 1 - TEL Selector Switch above the Input Terminals and Set Switch to the **MIC** position.

Attach the microphone leads to the terminal strip as per diagram in Fig 5A or Fig. 5B.

DO NOT GROUND THE MICROPHONE CABLE SHIELD TO THE CHASSIS OF THE AMPLIFIER

CABLE

BALANCED MICROPHONE

IMPORTANT NOTE: The use of an unbalanced Microphone (two leads) is not recommended. For best results in a PA Application always use a Unidirectional, Low Impedance, Balanced Microphone (three leads).

CABLE LENGTH - If the distance between the Microphone and the Amplifier Input is greater than 15 ft (4.5 m) a Balanced Microphone must be used. Use a two conductor shielded wire and connect Microphone to Amplifier as per Diagram in Fig. 5A.

MICROPHONE CABLE ROUTING - The Microphone Cable should be carefully routed. Improper Cable routing will cause spurious oscillations, regenerative noises, hum, etc. that may permanently damage the Amplifier.

- **Do not route cable next to power lines.**
- **Do not route cable near or over Fluorescent Fixtures.**
- **Do not route cable next to Speaker Wires.**
- **Do not install cable inside Power Line Conduits.**
- **Avoid the use of staples that may penetrate the cable.**

UNBALANCED MICROPHONE

Attach the Microphone leads to the terminal strip as per diagram in Fig 5B.

Be sure the cable length does not exceeds 15 Ft. (4.5 m).

INSTALLATION AND WIRING

INPUT CONNECTIONS

MICROPHONE INPUTS

USING A PUSH-TO-TALK DESK BASE MICROPHONE
Microphone paging and precedence over the AUX 1 or AUX 2 channels may be accomplished by using a Desk Base or a Gooseneck Microphone. Wire the Microphone output leads to the MIC 1/TEL terminals as per Fig. 6A.
MUTING: The Amplifier is equipped with two independent Muting Circuits:

- **Direct Muting by shorting the MUTE Terminals**
- **Automatic Muting with VOX - Voice Activated Muting**
  For additional information on the Muting operation refer to the Muting Functions section of this Manual.

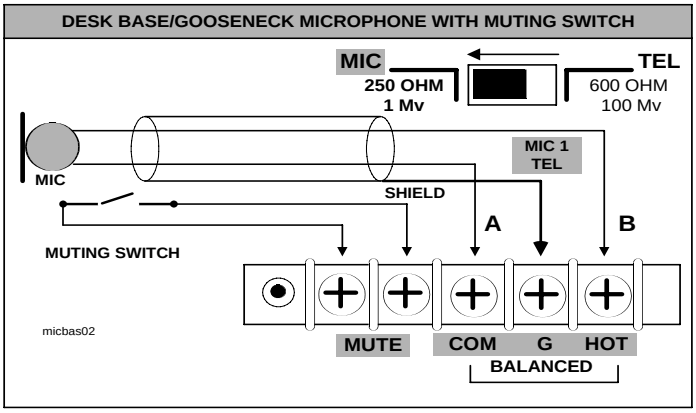


Fig. 6A - Rear Panel MIC 1/TEL Input Terminals

WIRING

MIC 1 - TELEPHONE INPUT SWITCH SELECTOR
Locate the MIC 1 - TEL Selector Switch above the Input Terminals and Set Switch to the **MIC** position.

Attach the microphone leads to the terminal strip as per diagram in Fig 6A.

DO NOT GROUND THE MICROPHONE CABLE SHIELD TO THE CHASSIS OF THE AMPLIFIER

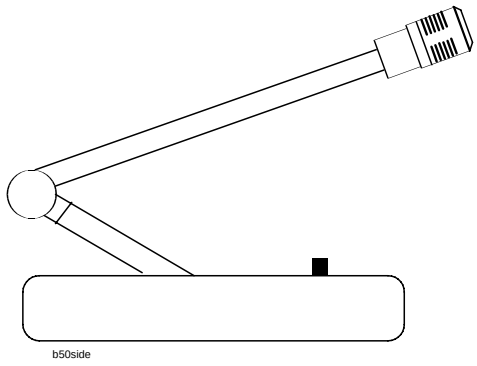
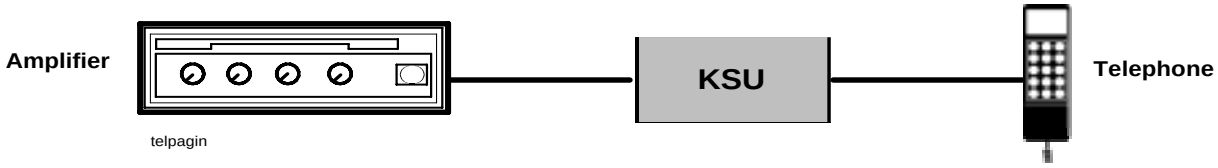


Fig. 6C - Desk Base Microphone

CONNECTING TO THE TELEPHONE PAGING SYSTEM



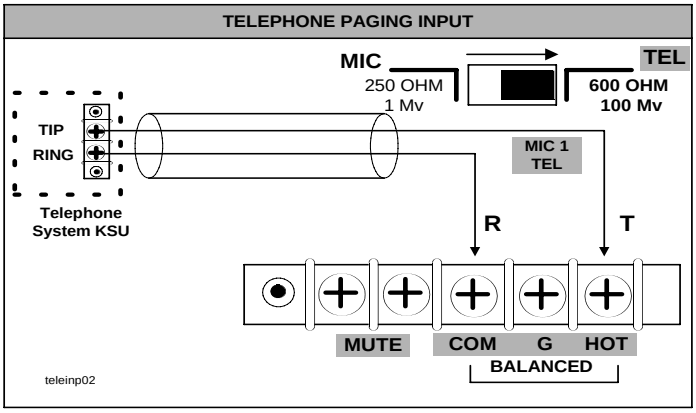


Fig. 6B - Rear Panel MIC 1/TEL Input Terminals

PAGING FROM THE TELEPHONE SYSTEM
MIC 1 - TELEPHONE INPUT SWITCH SELECTOR - Locate the MIC 1 - TEL Selector Switch above the Input Terminals and Set Switch to the **TEL** position.

WIRING - The Amplifier is interface ready for the Telephone line in applications requiring paging from the telephone system. The Telephone line Paging Output (Tip and Ring) can be directly connected to the MIC/TEL input and to the HOT and COM as shown in the wiring diagram Fig. 6B.

CABLE - Use a two conductor twisted wire.

DO NOT GROUND THE TIP OR RING WIRE TO THE CHASSIS OF THE AMPLIFIER

VOICE ACTIVATED MUTING (VOX) - Muting of the AUX 1 or AUX 2 channels (music muting) during Paging is automatic via the Voice Activated Muting System. No contact closure for the Muting Circuit is required from the Telephone system. For additional information on the Muting operation refer to the Muting Functions section of this Manual.

INSTALLATION AND WIRING

OUTPUT CONNECTIONS

CONSTANT VOLTAGE DISTRIBUTION SYSTEMS

25 VOLT AND 70 VOLT CONSTANT VOLTAGE DISTRIBUTION SYSTEMS - In applications requiring a large number of speakers that are located at a far distance from the amplifier a 25 Volt or a 70 Volt Constant Voltage method is most widely used.

MAIN ADVANTAGES IN USING THE HIGH IMPEDANCE METHOD
1) All speakers are connected in parallel usually on to a single speaker line.
2) The Amplifier Output Voltage is constant over a very wide range of load impedance.
3) The Amplifier Output Voltage remains practically constant if loudspeakers are connected or disconnected from the line.
4) Different acoustic power can be allocated in each area as required by using the power taps on the speaker line transformer.
5) Since the system provides a higher voltage at a lower current, resistive loss in the cable is reduced resulting in a higher efficiency.
6) Calculations of the output power needed and the speaker power requirements are simple and easily accomplished.

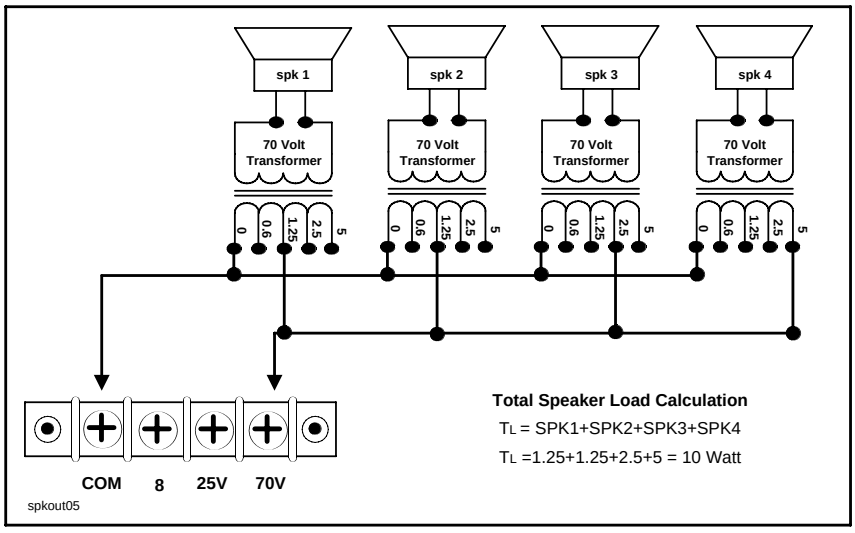


Fig. 13 - 70 Volt Constant Voltage System Diagram

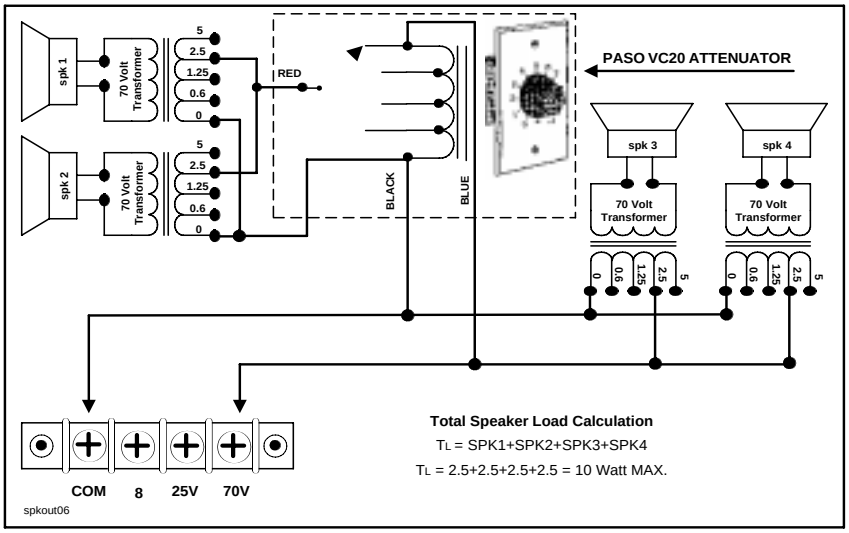


Fig. 13A - Using a Line Attenuator Diagram

WIRING

INSTALLATION TIPS
1) Determine the amount of speakers required for the installation and their location.
2) Choose the power output needed for each speaker (typically 1.25 Watt for background music applications and 5-10 Watt for paging horns).
3) Add all the speaker taps wattage (see Fig. 13) and be sure that the total power needed does not exceed the Rated RMS Power Output of the Amplifier
4) Procure a jacketed, two conductor cable of at least 18 gauge.
5) Carefully route cable starting with the farthest speaker in the system and until all speakers are reached by the cable and terminating at the Amplifier location. The best cable route is determined by the individual application.
6) Connect each speaker in accordance to the power output required by selecting the corresponding Power Tap.
IMPORTANT NOTE: Make sure that the unused stripped power tap wires are INDIVIDUALLY INSULATED and do not touch each other or an amplifier overload will occur.
7) Connect the speakers cable to the *25 Volt* or *70 Volt* and *COM* output terminals of the Amplifier, turn the system on and balance the various speakers accordingly. The selection of the Constant Voltage (25 Volt or 70 Volt) is determined by the speakers used. All speakers must operate at the same constant voltage and cannot be mixed.

LINE ATTENUATORS
In installation requiring that one or a group of speakers have an independent level control a Line Attenuator can be utilized. The Fig. 13A shows the use of a PASO model VC20 - 20 Watt Attenuator used to control two speakers simultaneously. The wire colors pertain to the VC20, if other types are used follow the directions supplied with the unit.

By turning the stepped switch of the VC20 the level of speakers SPK 1 and SPK 2 can be adjusted, up or down, from 0 (no output) to the maximum output determined by the tap utilized on the speakers (in this example 2.5 Watt max.). Speakers SPK 3 and SPK 4 are not affected.

NOTE: The total power required for all the speaker or speakers to be controlled should not exceed the Power Handling rating of the Attenuator. Example: the maximum load for the VC20 is 20 Watt.

INSTALLATION AND OPERATION

FRONT PANEL CONTROLS

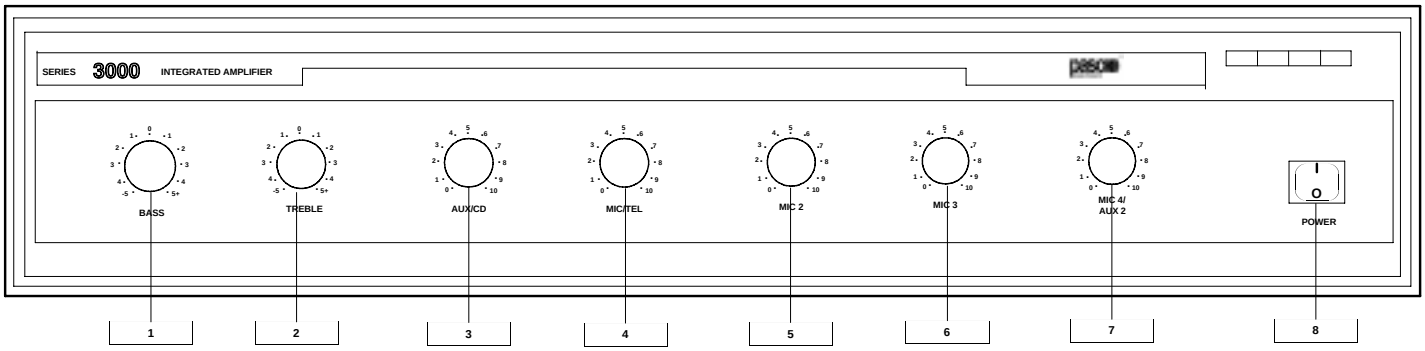


Fig. 18 - Front Panel Controls

1) **Bass Control**
2) **Treble Control**
3) **AUX/CD Control**
4) **MIC/TEL Input Volume Control**
5) **MIC 2 Volume Control**
6) **MIC 3 Volume Control**
7) **MIC 4 - AUX 2 Volume Control**
8) **On-Off Power Switch**

INPUT CONTROLS

MICROPHONE INPUT CONTROLS
Four separate microphone volume controls are provided to adjust the level of the respective microphone inputs. Rotate control clockwise to increase volume. Set the controls to ``0'' position when the microphone inputs are not in use.

TELEPHONE PAGING LEVEL CONTROL
Microphone Input 1 can be switched to Telephone Paging Input by setting the MIC/TEL Switch, located on the rear panel, to the TEL position. The telephone Paging level ca be adjusted by using the front panel control marked MIC 1/TEL.

AUX 1/CD INPUTS CONTROL
A front panel Volume Control is provided to adjust the level of the Aux 1/CD inputs. Rotate control clockwise to increase volume. This control adjusts the level of both the AUX 1 and the CD inputs. Only one input at the time should be used. Set this control to ``0'' position when the inputs are not in use.

MIC 4/AUX 2 CONTROL
Microphone Input 4 can be switched to AUX 2 by setting the MIC 4/AUX 2 Switch, located on the rear panel, to the AUX 2 position. The Microphone Input 4 and the AUX 2 level ca be adjusted by using the front panel control marked MIC 4/AUX 2.

ACOUSTIC CORRECTION

CAUTION: EXCESSIVE BOOST SETTING OF EITHER BASS OR TREBLE CONTROLS, MAY DAMAGE SPEAKERS.

BASS CONTROL
Use this control to set the tonal balance of the amplifier. The control center position, indicated by a ``0'', provides a flat response. To reduce the Bass response (bass cut) rotate control counterclockwise. To increase the Bass response (bass boost) rotate control clockwise.

Use this control to minimize Acoustic Feedback (howling) by setting the control in the CUT range 0 to -5. ALWAYS set control in the BASS-CUT position when using horn type speakers. Excessive bass response may damage the speaker's driver diaphragm.

TREBLE CONTROL
Use this control to set the tonal balance of the amplifier. The control center position, indicated by a ``0'', provides a flat frequency response. To reduce the High Frequency response (high cut) rotate control counterclockwise. To increase the High Frequency response (high boost) rotate control clockwise. USE this control to minimize possible white or hiss noise by setting control in the HIGH-CUT range 0 to -5.

TURNING THE AMPLIFIER ON

PRECAUTIONS
POWER SWITCH
DO NOT turn the amplifier On until all input and output connections have been made.

MAKE SURE that all volume controls are in the ``0'' position before turning the amplifier On. Excessively high setting of the volume controls may damage the speakers.Turn amplifier ON by setting the front panel POWER SWITCH to the ON position.The pilot light on the front panel should glow normally.

MAINTENANCE AND SERVICE

CAUTION ! REMOVAL OF THE AMPLIFIER COVER PRESENTS AN ELECTRICAL SHOCK HAZARD ALWAYS REMOVE THE POWER CORD FROM THE AC WALL OUTLET

THE SERVICING INSTRUCTIONS ARE FOR USE BY QUALIFIED PERSONNEL ONLY. TO AVOID ELECTRIC SHOCK DO NOT PERFORM ANY SERVICING OTHER THAN THAT CONTAINED IN THE OPERATING INSTRUCTIONS UNLESS YOU ARE QUALIFIED TO DO SO. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL ONLY.

TROUBLESHOOTING CHART

This Troubleshooting Chart is provided to the installer as an aid in locating and correcting possible problems that may arise during installation or after use. This chart should only be used by qualified personnel trained in repair and maintenance of electrical apparatus.

PROBLEM SYMPTOMS	PROBABLE CAUSE
AMPLIFIER IS COMPLETELY DEAD. **POWER INDICATOR DOES NOT GLOW.**	**1) NO VOLTAGE PRESENT AT AC OUTLET.** **2) AC LINE FUSE OPEN.** **3) DEFECTIVE OR OPEN POWER CORD.** **4) POWER SWITCH INOPERATIVE.** **5) POWER TRANSFORMER WINDING OPEN.** **6) POWER INDICATOR DEFECTIVE OR DISCONNECTED.**
POWER INDICATOR GLOWS BUT THERE IS NO OUTPUT FROM THE AMPLIFIER.	**1) INPUT CONTROLS SETTING NOT ADJUSTED PROPERLY.** **2) SPEAKER WIRES SHORTED.** **3) SPEAKER(S) LINE INTERRUPTED.** **4) MICROPHONE OR PROGRAM SOURCE INTERRUPTED.**
LOUD HUM OR CRACKLING SOUND FROM THE SPEAKERS.	**1) MICROPHONE INPUTS INCORRECTLY WIRED.** **2) OPEN GROUND OR SHIELD IN INPUT CABLES.** **3) SPEAKER TERMINALS SHORTED TO CHASSIS GROUND.**
OUTPUT LEVEL LED'S GLOW CYCLICALLY **SOUND IS INTERMITTENT.** **SOUND IS DISTORTED AND SCRATCHY.**	**1) SPEAKER LINE SHORTED.** **2) ONE OR MORE SPEAKER OR LINE TRANSFORMER SHORTED.** **3) OUTPUT IMPEDANCE LOAD MISMATCHED WITH AMPLIFIER OUTPUT IMPEDANCE SETTING (OVERLOAD).** **4) IN CONSTANT VOLTAGE SYSTEMS (25-70 V) THE TOTAL LOAD POWER REQUIREMENT EXCEEDS THE AMPLIFIER POWER RATING (OVERLOAD).** **5) EXCESSIVELY HIGH SETTING OF ONE OR MORE VOLUME CONTROLS.**
ACOUSTIC FEEDBACK OR LOUD SQUEAL OCCURS WHEN AMPLIFIER IS TURNED ON.	**1) MICROPHONE IS LOCATED TOO CLOSE OR IS FACING SPEAKERS.** **2) VOLUME CONTROL SETTING TOO HIGH.** **3) TONE CONTROLS SHOULD BE SET IN THE CUT RANGE.**

AC LINE FUSE REPLACEMENT

CAUTION: TO REDUCE THE RISK OF FIRE REPLACE ONLY WITH THE SAME TYPE OF FUSE

Procure a Fuse Type: 5 X 20 MM

Turn amplifier power switch to the Off position. Remove power cord from AC outlet.

Insert the tip of a screwdriver inside the Fuse Holder Cap and remove the fuse by unscrewing the cap. Replace Fuse and screw the cap back onto Fuse Holder.

DC FUSE REPLACEMENT

CAUTION: TO REDUCE THE RISK OF FIRE REPLACE ONLY WITH THE SAME TYPE OF FUSE

NOTE: THE POWER CORD MUST BE REMOVED BEFORE THE FUSE CAN BE REPLACED

Procure a Fuse Type: AG

Turn amplifier power switch to the Off position. Remove power cord from AC outlet. Insert the tip of a cross screwdriver inside the Fuse Holder Cross screw, turn screw counterclockwise and remove the fuse by pulling outwardly. Replace Fuse in fuse holder.

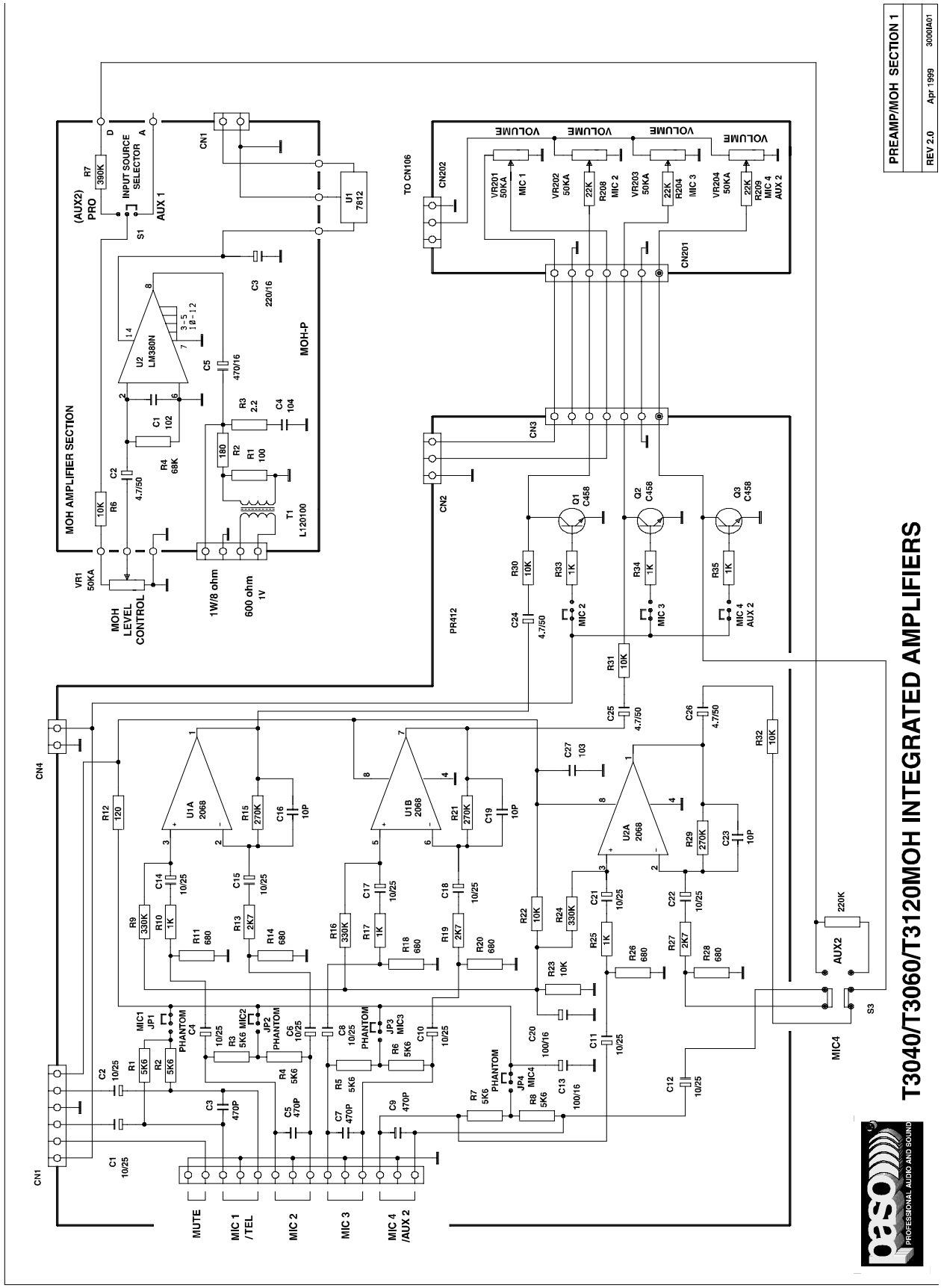


Fig. 21 - Schematic Diagram Section 1

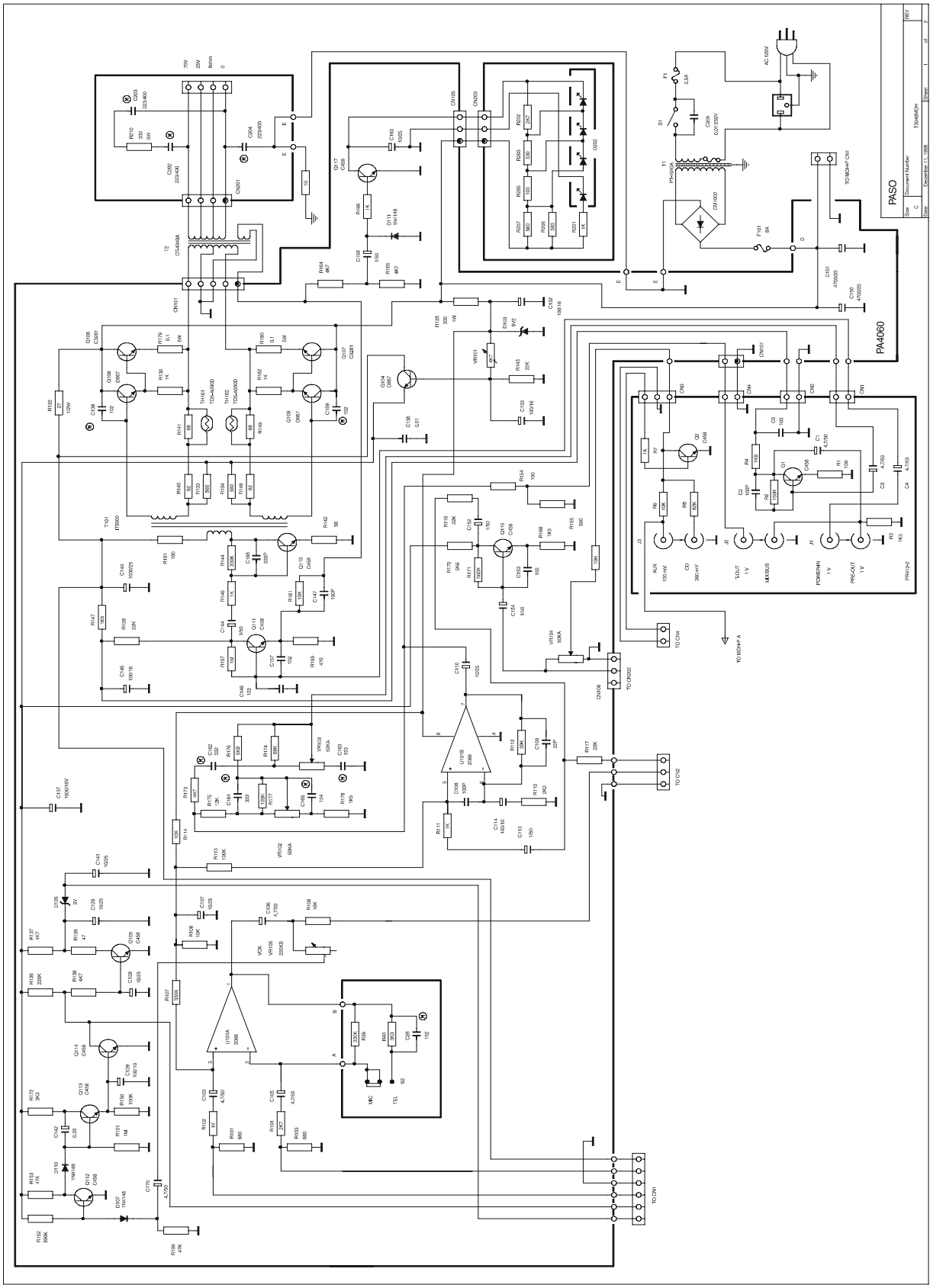


Fig. 22 - Schematic Diagram Model T3040MOH Section 2

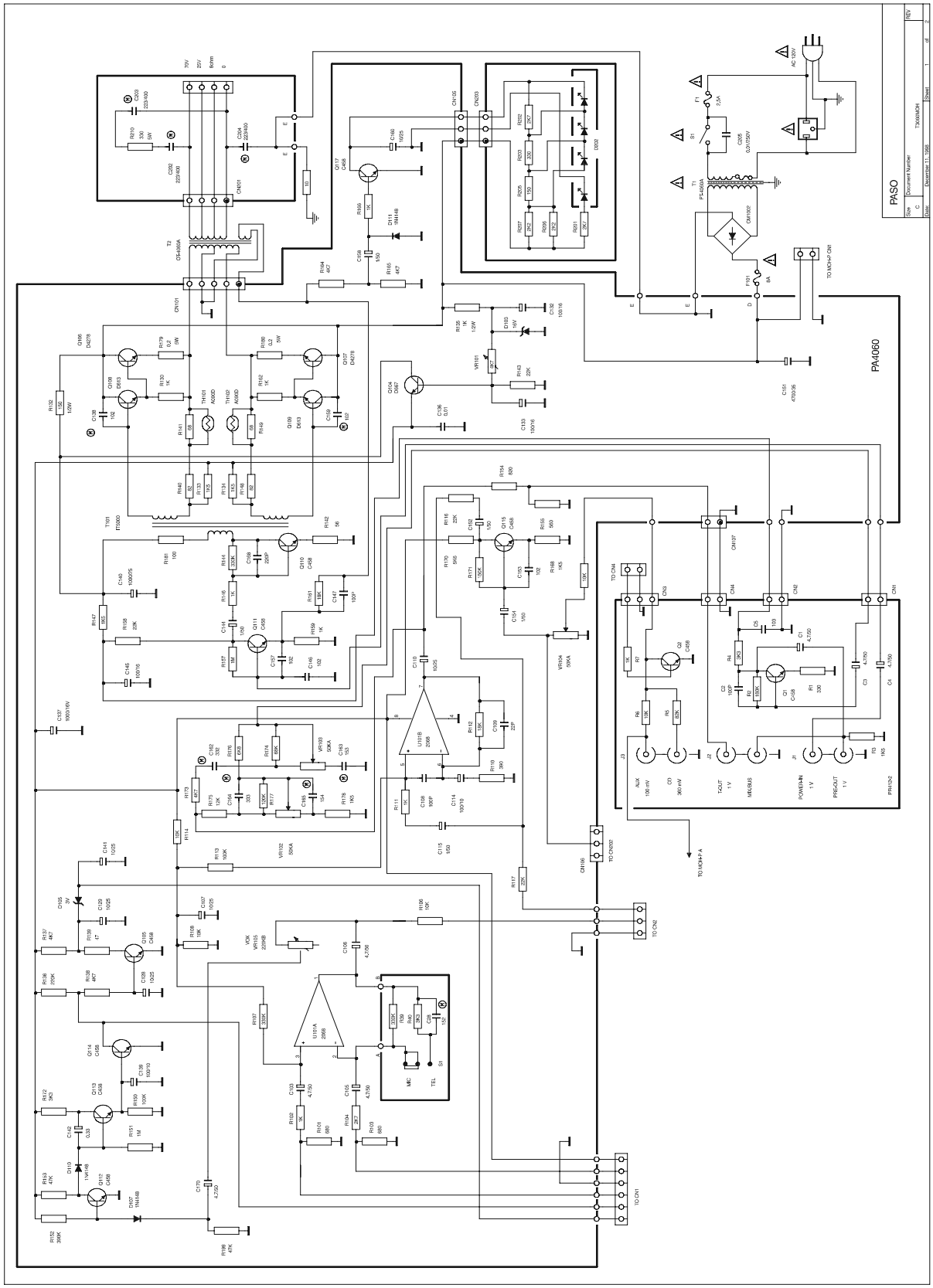


Fig. 23 - Schematic Diagram Model T3060MOH Section 2

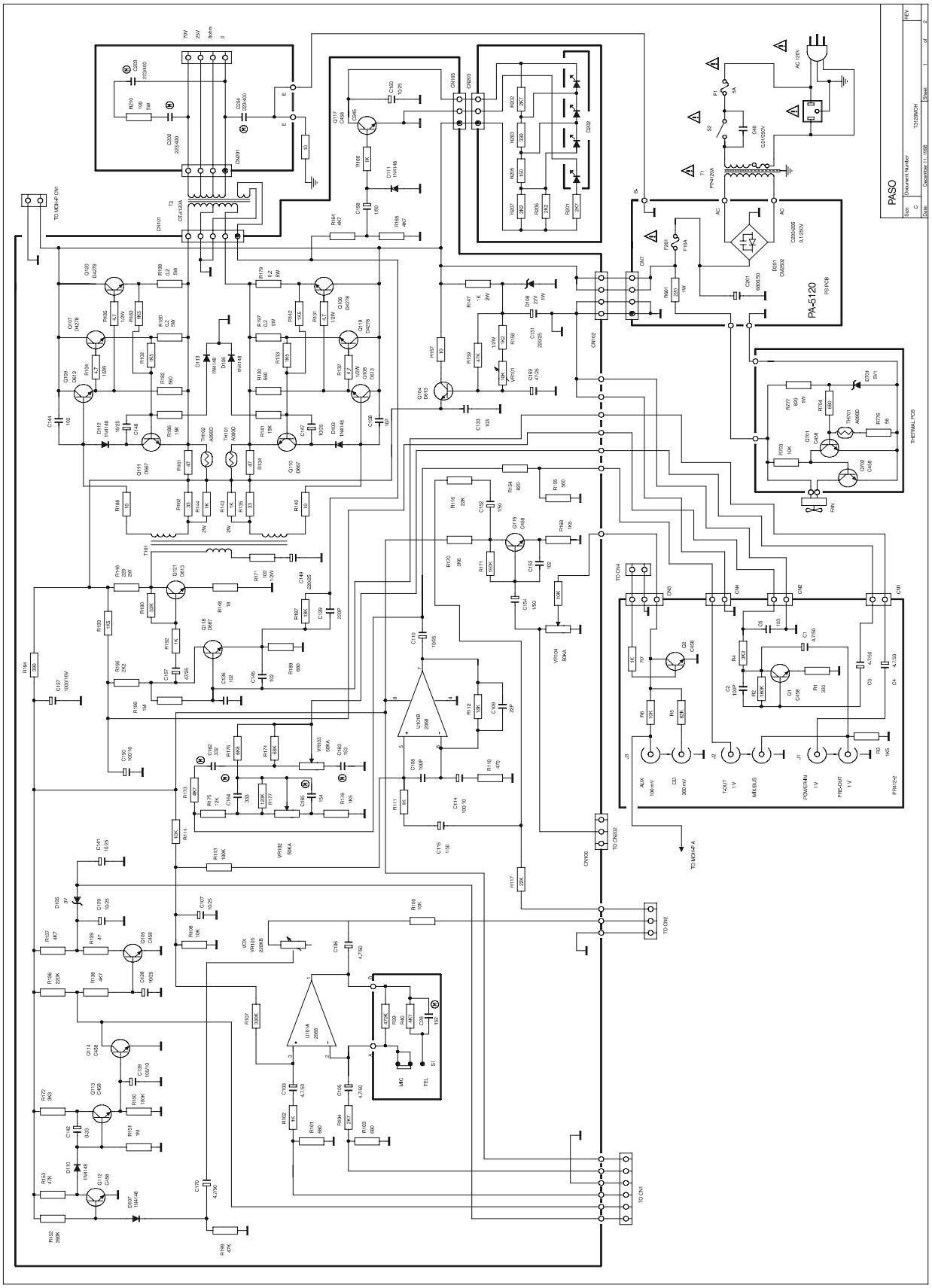


Fig. 24 - Schematic Diagram Model T3120MOH Section 2

CUSTOMER SERVICE

REPLACEMENT PARTS

REPLACEMENT PARTS
Please provide complete information when you request replacement parts from either the Factory or a Paso Authorized Distributor. Be certain to include the Part Number and Description as it appears on the parts list, the Model Number of the unit and if possible the Serial Number and the date of purchase of the unit. Replacement parts inventory is maintained specifically to repair Paso products. Part sales for other reasons or applications will be declined.

ORDERING FROM THE FACTORY
Print all information on a purchase order form and mail to:
PASO SOUND PRODUCTS, INC.
4750 Goer Drive - Building F
NORTH CHARLESTON, SC 29406

Be sure to include the following:
- Paso part number
- Part description
- Quantity required
- Model number of the unit
- Serial number of the unit
- Your payment or your authorization for COD shipment for parts not covered by the Warranty or if your company has a current account with the factory

RETAIN ORIGINAL IN WARRANTY PARTS UNTIL YOU RECEIVE REPLACEMENTS. PARTS THAT SHOULD BE RETURNED TO THE FACTORY WILL BE LISTED ON YOUR PACKING SLIP.

For your convenience replacement parts are also available through Paso Authorized Distributors and Dealers nation wide. Obtain a location list directly from the Factory or your regional Paso Representative.

TECHNICAL CONSULTATION
- Need help with your installation ?
- Need help with the operation of the unit ?
- Need help with a repair ?

Call or write for assistance. You will find our Technical Dept.. eager to help or assist you with any technical problem you may have encountered except "`Customizing" for a unique application.

The effectiveness of our consultation service depends on the accuracy of the information you furnish.
Be sure to tell us:
- The Model and Serial number of the unit
- The date of purchase
- An exact description of the difficulty
- All you have done in attempting to correct the problem

Call our toll-free phone number:

1-800 231 3034

REPAIR SERVICE

REPAIR SERVICE
Repair service for out of warranty Paso products may be obtained form your local Paso distributor or any other qualified repair station.

In warranty repairs must be returned to the Factory.
Prior authorization must be obtained from the Factory.
Products received without authorization will be refused by our Receiving Dept..

IN WARRANTY REPAIR SERVICE
Call or write the Factory to obtain an authorization to return the product for repairs.

Pack the equipment in the original carton or in a strong carton with at least THREE INCHES of resilient packing material on all sides, top and bottom. Seal the carton with reinforced tape and mark it FRAGILE on at least two sides. Remember, the Carrier will not accept liability for shipping damages if the unit is improperly packed.

EQUIPMENT RECEIVED IN DAMAGED CONDITION DUE TO POOR PACKING WILL BE REFUSED AND THE WARRANTY COVERAGE IS AUTOMATICALLY VOIDED.

The Paso Sound Limited Warranty provides:

The examination of the returned product must disclose in our judgement, a manufacturing defect. The warranty does not extend to any product that has been subject to misuse, neglect, accident, improper installation or where the serial number of the product has been removed or defaced.

Ship via insured prepaid United Parcel Service or Parcel Post to:

PASO SOUND PRODUCTS, INC.
4750 Goer Drive - Building F
NORTH CHARLESTON, SC 29406
ATT. SERVICE DEPARTMENT
The equipment will be returned freight prepaid after repairs.

Be sure to include the following:
- Your name and address
- Date of purchase and copy of invoice
- A brief description of the difficulty
- A return address shipping label
-

OUT OF WARRANTY REPAIR SERVICE
Follow return instructions as per in warranty repair service. Prior to performing all necessary repairs, you will be advised of the charges and at that time a written authorization by you will be required including authorization to return the equipment COD for the service and shipping charges. This will avoid unnecessary delays in returning the equipment to you.